

Histochemistry and Cell Biology

CONTENTS OF VOLUME 111 • 1999

Official Journal of the Society for Histochemistry

Editors-in-Chief

D. Drenckhahn, Würzburg
J. Roth, Zurich

Editorial Board

F.T. Bosman, Lausanne
D. Brown, Boston
Y. Cetin, Marburg
R. Dermietzel, Bochum
H. Eppenberger, Zurich
H.D. Fahimi, Heidelberg
S. Fakan, Lausanne
J.B. Furness, Melbourne
U. Gröschel-Stewart, London
R.A. Hennigar, Atlanta
N. Hirokawa, Tokyo
H. Höfler, Munich

E.B. Hunziker, Berne
P. Komminoth, Zurich
P. Kugler, Würzburg
W. Kummer, Geissen
L.-I. Larsson, Copenhagen
K. von der Mark, Erlangen
W. Neuhuber, Erlangen
R. Oriol, Villejuif
M. Pavelka, Innsbruck
D. Pette, Constance
A.K. Raap, Leiden
J.M. Robinson, Columbus
H. Seguchi, Kochi
J.W. Slot, Utrecht
C.E. Smith, Montreal
K. Takata, Maebashi
M.R. Torrisi, Rome
F. Wachtler, Vienna
S. Yokota, Yamanashi



Springer

Histochemistry and Cell Biology

Official Journal of the Society for Histochemistry

Founded in 1958, Volumes 1–3 were entitled “Zeitschrift für Zellforschung und mikroskopische Anatomie”, with the subtitle “Abteilung Histochemie”. Beginning with Volume 4 the title was changed to “Histochemie/Histochemistry/Histochimie”. From Volume 38 to Volume 102 the journal was called “Histochemistry”; this was changed to “Histochemistry and Cell Biology” with the first issue of Volume 103.

Copyright

Submission of a manuscript implies: that the work described has not been published before (except in the form of an abstract or as part of a published lecture, review, or thesis); that it is not under consideration for publication elsewhere; that its publication has been approved by all coauthors, if any, as well as by the responsible authorities at the institute where the work has been carried out; that, if and when the manuscript is accepted for publication, the authors agree to automatic transfer of the copyright to the publisher; and that the manuscript will not be published elsewhere in any language without the consent of the copyright holders.

Manuscripts must contain a statement to the effect that all human studies have been reviewed by the appropriate ethics committee and have therefore been performed in accordance with the ethical standards laid down in an appropriate version of the 1964 Declaration of Helsinki. It should also be stated clearly in the text that all persons gave their informed consent prior to their inclusion in the study. Details that might disclose the identity of the subjects under study should be omitted.

Reports of animal experiments must state that the “Principles of laboratory animal care” (NIH publication No. 85–23, revised 1985) were followed, as well as specific national laws (e.g. the current version of the German Law on the Protection of Animals) where applicable.

The managing editors reserve the right to reject manuscripts that do not comply with the above-mentioned requirements. The author will be held responsible for false statements or for failure to fulfil the above-mentioned requirements.

All articles published in this journal are protected by copyright, which covers the exclusive rights to reproduce and distribute the article (e.g., as off-prints), as well as all translation rights. No material published in this journal may be reproduced photographically or stored on microfilm, in electronic data bases, on video disks, etc. without first obtaining written permission from the publisher.

The use of general descriptive names, trade names, trademarks, etc. in this publication, even if not specifically identified, does not imply that these names are not protected by the relevant laws and regulations.

While the advice and information in this journal is believed to be true and accurate at the date of its going to press, neither the authors, the editors, nor the publisher can accept any legal responsibility for any errors or omissions that may be made. The publisher makes no warranty, express or implied, with respect to the material contained herein.

This journal is included in ADONIS service. In the ADONIS service copies of individual articles can be printed out from compact discs (CD-ROM) on demand. An explanatory leaflet giving further details of the scheme is available from the publishers on request.

Special regulations for photocopies in the USA
Photocopies may be made for personal or in-house use beyond the limitations stipulated under Section 107 or 108 of U.S. Copyright Law, provided a fee is paid. All fees should be paid to the Copyright Clearance Center, Inc., 21 Congress Street, Salem, MA 01970, USA, stating the ISSN 0948-6143, the volume, and the first and last page numbers of each article copied. The copyright owner's consent does not include copying for general distribution, promotion, new works, or resale. In these cases, specific written permission must first be obtained from the publisher.
The Canada Institute for Scientific and Technical Information (CISTI) provides a comprehensive, world-wide document delivery service for all Springer-Verlag journals. For more information, or to place an order for a copyright-cleared Springer-Verlag document, please contact Client Assistant, Document Delivery, Canada Institute for Scientific and Technical Information, Ottawa K1A 0S2, Canada (Tel. 613-993-9251; Fax 613-952-8243; e-mail: cisti.docdel@nrc.ca).

Printers and typesetters

Stürtz AG,
Würzburg, Germany

© Springer-Verlag, Berlin Heidelberg 1999
Printed in Germany
Springer-Verlag GmbH & Co KG,
D-14197 Berlin, Germany



Springer

- Adriaensen D → Timmermans J-P
 Ahnert-Hilger G → Jöns T
 Akamine A → Maeda H
 Akasaki K → Maeda H
 Altmann G, Korh H: A new radiographic procedure for obtaining correction factors of ^3H - β -self-absorption for quantitative tritium autoradiography 209
 Amizuka N → Wakida K
 Aoyagi M, Yamamoto S, Azuma H, Yamamoto M, Tamaki M, Niimi Y, Hirakawa K, Yamamoto K: Localization and effects of hepatocyte growth factor on smooth muscle cells during neointimal formation after balloon denudation 419
 Azuma H → Aoyagi M
- Bächi T → Mueller A
 Bannasch P → Mayer D
 Bartke A → Vidal S
 Benedum J, Meusch M: Robert Feulgen (1884–1955) – some biographical thoughts 337
 Berndt A, Luo X, Böhrer F-D, Kosmehl H: Expression of the transmembrane protein tyrosine phosphatase RPTP α in human oral squamous cell carcinoma 399
 Bienz K → Egger D
 Böhrer F-D → Berndt A
 Bolten R → Egger D
 Boon L, Geerts WJC, Jonker A, Lamers WH, Van Noorden CJF: High protein diet induces pericentral glutamate dehydrogenase and ornithine aminotransferase to provide sufficient glutamate for pericentral detoxification of ammonia in rat liver lobules 445
 Breton S, Tyszkowski R, Sabolic I, Brown D: Postnatal development of H^+ ATPase (proton-pump)-rich cells in rat epididymis 97
 Briski KP: Induction of Fos immunoreactivity by acute glucose deprivation in the rat caudal brainstem: relation to NADPH diaphorase localization 229
 Brown D → Breton S
 Brownie J → Paskins L
 Bull J → Paskins L
 Buniatian G → Mayer D
 Butler-Browne GS → Kadi F
- Campos GER → Staron RS
 Caselitz J → Wiedorn KH
 Chieco P, Derenzini M: The Feulgen reaction 75 years on 345
 Cotanche DA → Fernandes RP
 Crotet V → Maly IP
 Cuvelier L → Résibois A
- Davidoff MS, Middendorff R, Pusck W, Müller D, Wichers S, Holstein AF: Sertoli and Leydig cells of the human testis express neurofilament triplet proteins 173
 Decker J → Trick D
 Derenzini M → Chieco P
 DiMario P → Zhu Y
 Dirks RW, Snaar S: Dynamics of RNA polymerase II localization during the cell cycle 405
- Edgerton VR → Rivero J-LL
 Egger D, Bolten R, Rahner C, Bienz K: Fluorochrome-labeled RNA as a sensitive, strand-specific probe for direct fluorescence in situ hybridization 319
 El-Mestrah M, Kan FWK: Differential distribution of lectin-binding glycoconjugates in the secretory granules of hamster oviductal ampulla during the estrous cycle: a quantitative cytochemical analysis 23
 Eriksson A → Kadi F
 Erkan F → Fernandes RP
- Fan L, Iseki S: Immunohistochemical localization of vascular endothelial growth factor in the globule leukocyte/mucosal mast cell of the rat respiratory and digestive tracts 13
 Fernandes RP, Cotanche DA, Lennon-Hopkins K, Erkan F, Menko AS, Kukuruzinska MA: Differential expression of proliferative, cytoskeletal, and adhesive proteins during postnatal development of the hamster submandibular gland 153
 Flanagan AM → Oreffo ROC
 Franke WW → Yaoita E
 Fröjdman K, Pelliniemi LJ, Rey R, Virtanen I: Presence of anti-Müllerian hormone correlates with absence of laminin $\alpha 5$ chain in differentiating rat testis and ovary 367
 Fry AC → Staron RS
 Fujimiyama M → Okumiyama K
 Fukae M → Wakida K
 Funk RHW → Schulze E
 Futakuchi H → Kasashima S
- Galle J → Wiedorn KH
 Gebhardt R → Mayer D
 Geerts WJC → Boon L
 Giménez-Amaya JM → Lanciego JL
 Grano M → Oreffo ROC
 Grimelius L → Li Q
 Grimelius L → Portela-Gomes GM
 Groene H-J → Trick D
- Harada T → Razzaque MS
 Hayashi H → Nishikawa A
 Heim K-H → Jöns T
 Heizmann CW → Mueller A
 Heizmann CW → Résibois A
 Herken R → Quondamatteo F
 Hikida RS → Staron RS
 Hirakawa K → Aoyagi M
 Höchli M → Mueller A
 Hofer HW → Wimmer M
 Holmner S → Kadi F
 Holstein AF → Davidoff MS
 Höög A → Li Q
- Iseki S → Fan L
 Ito T, Udaka N, Kawano N, Nogawa H, Kitamura H: Ontogeny of pulmonary neuroendocrine cells which express the alpha-subunit of guanine nucleotide-binding protein Go 289
- Johansson H → Li Q
 Johansson H → Portela-Gomes GM
 Jonker A → Boon L
 Jöns T, Heim K-H, Kistner U, Ahnert-Hilger G: SAP 97 is a potential candidate for basolateral fixation of ezrin in parietal cells 313
 Jungblut PW: Autor's reply 85
- Kadi F, Eriksson A, Holmner S, Butler-Browne GS, Thornell L-E: Cellular adaptation of the trapezius muscle in strength-trained athletes 189
 Kalczyk J, Timmermans J-P, Majewski M, Lakomy M, Scheuermann DW: Immunohistochemical properties of nerve fibres supplying accessory male genital glands in the pig. A colocalisation study 217
 Kan FWK → El-Mestrah M
 Kasashima S, Kawashima A, Muroishi Y, Futakuchi H, Nakanishi I, Oda Y: Neurons with choline acetyltransferase immunoreactivity and mRNA are present in the human cerebral cortex 197
 Kasper M → Schulze E
 Kawano N → Ito T
 Kawasaki K → Yaoita E
 Kawashima A → Kasashima S
 Kihara I → Yaoita E
 Kistner U → Jöns T
 Kitamura H → Ito T
 Kitazawa R → Kitazawa S
 Kitazawa S, Kitazawa R, Maeda S: In situ hybridization with polymerase chain reaction-derived single-stranded DNA probe and S1 nuclease 7
 Kjellman M → Li Q
 Koji T → Razzaque MS
 Korh H → Altmann G
 Kosmehl H → Berndt A
 Kovacs K → Vidal S
 Kraemer WJ → Staron RS
 Krystosek A: Preferential sites of early DNA cleavage in apoptosis and the pathway of nuclear damage 265
 Kühl H → Wiedorn KH
 Kukuruzinska MA → Fernandes RP
 Kumatori A → Razzaque MS
 Kusec V → Oreffo ROC
- Lakomy M → Kalczyk J
 Lamers WH → Boon L
 Lanciego JL, Giménez-Amaya JM: Notes on the combined use of V-VIP and DAB peroxidase substrates for the detection of colocalising antigens 305
 Larsson A → Li Q
 Lennon-Hopkins K → Fernandes RP
 Leutbecher H → Westermann M
 Levebyre R → Timmermans J-P
 Li Q, Grimelius L, Höög A, Johansson H, Kjellman M, Larsson A: Characterisation of endothelin-1-related protein in human adrenal cortex and in cortical lesions 33
 Löwik CWGM → Schulze E
 Lu D → Zhu Y
 Luo X → Berndt A
- Maeda H, Akasaki K, Yoshimine Y, Akamine A, Yamamoto K: Limited and selective localization of the lysosomal membrane glycoproteins LGP85 and LGP96 in rat osteoclasts 245
 Maeda S → Kitazawa S
 Majewski M → Kalczyk J
 Majima A → Yoshimura E
 Maly IP, Toranelli M, Sasse D: Distribution of alcohol dehydrogenase in isoenzymes in the human liver acinus 391

- Maly IP, Crotet V, Sasse D: Spatial distribution of human liver aldehyde dehydrogenase isoenzymes 461
- Marks SC Jr → Sundquist KT
- Mayer D, Buniatian G, Metzger C, Bannasch P, Gebhardt R: Dehydroepiandrosterone increases in zone of glutamine synthetase-positive hepatocytes in female rat liver: a putative androgenic effect 375
- Menko AS → Fernandes RP
- Metzger C → Mayer D
- Meusch M → Benedum J
- Meyer HW → Westermann M
- Middendorff R → Davidoff MS
- Miosge N → Quondamatteo F
- Mueller A, Bächli T, Höchli M, Schäfer BW, Heizmann CW: Subcellular distribution of S100 proteins in tumor cells and their relocation in response to calcium activation 453
- Müller D → Davidoff MS
- Murakami C → Wakida K
- Muroishi Y → Kasashima S
- Murray JD → Staron RS
- Nakanishi I → Kasashima S
- Niimi Y → Aoyagi M
- Nishikawa A, Hayashi H: T₃-hydrocortisone synergism on adult-type erythroblast proliferation and T₃-mediated apoptosis of larval-type erythroblasts during erythropoietic conversion in *Xenopus laevis* 325
- Nogawa H → Ito T
- Oda Y → Kasashima S
- Okumiyama K, Fujimiyama M: Immunoelectron microscopic study of the luminal release of chromogranin A from rat enterochromaffin cells 253
- Oreffo ROC, Kusec V, Virdi AS, Flanagan AM, Grano M, Zamboni-Zallone A, Triffitt JT: Expression of estrogen receptor- α in cells of the osteoclastic lineage 125
- Ozawa H → Wakida K
- Paratore C, Suter U, Sommer L: Embryonic gene expression resolved at the cellular level by fluorescence in situ hybridization 435
- Paskins L, Brownie J, Bull J: In situ polymerase chain reaction and cycling primed in situ amplification: improvements and adaptations 411
- Pelliniemi LJ → Fröjdman K
- Portela-Gomes GM, Stridsberg M, Johansson H, Grimelius L: Co-localization of synaptophysin with different neuroendocrine hormones in the human gastrointestinal tract 49
- Pusch W → Davidoff MS
- Quondamatteo F, Scherf C, Miosge N, Herken R: Immunohistochemical localization of laminin, nidogen, and type IV collagen during the early development of human liver 39
- Rahner C → Egger D
- Razzaque MS, Koji T, Harada T, Taguchi T: Localization in situ of type VI collagen protein and its mRNA in mesangial proliferative glomerulonephritis using renal biopsy sections 1
- Razzaque MS, Koji T, Kumatori A, Taguchi T: Cisplatin-induced apoptosis in human proximal tubular epithelial cells is associated with the activation of the Fas/Fas ligand system 359
- Résibois A, Cuvelier L, Svoboda M, Heizmann CW, Thöny B: Immunohistochemical localisation of pterin-4 α -carbinolamine dehydratase in rat peripheral organs 381
- Rey R → Fröjdman K
- Rivero J-LL, Talmadge RJ, Edgerton VR: Interrelationships of myofibrillar ATPase activity and metabolic properties of myosin heavy chain-based fibre types in rat skeletal muscle 277
- Sabolic I → Breton S
- Sakakura T → Yoshimura E
- Sakakura Y → Yoshimura E
- Sasse D → Maly IP
- Satoda T → Wakida K
- Schäfer BW → Mueller A
- Schelling ME → Zijlstra A
- Scherf C → Quondamatteo F
- Scheuermann DW → Kaleczyc J
- Schulze E, Witt M, Kasper M, Löwik CWGM, Funk RHW: Immunohistochemical investigations on the differentiation marker protein E11 in rat calvaria, calvaria cell culture and the osteoblastic cell line ROS 17/2.8 61
- Schulze M → Trick D
- Simmer JP → Wakida K
- Snaar S → Dirks RW
- Sommer L → Paratore C
- Staron RS, Kraemer WJ, Hikida RS, Fry AC, Murray JD, Campos GER: Fiber type composition of four hindlimb muscles of adult Fisher 344 rats 117
- Stefaneanu L → Vidal S
- Stridsberg M → Portela-Gomes GM
- Stumpf WE: Localizing estradiol and other diffusible hormones and drugs by autoradiography and immunocytochemistry 83
- Sundquist KT, Väänänen HK, Marks SC Jr: Carbonic anhydrase II and H⁺-ATPase in osteoclasts of four osteopetrotic mutations in the rat 55
- Suter U → Paratore C
- Svoboda M → Résibois A
- Tag C → Wimmer M
- Taguchi T → Razzaque MS
- Talmadge RJ → Rivero J-LL
- Tamaki M → Aoyagi M
- Thöny B → Résibois A
- Thornell L-E → Kadi F
- Timmermans J-P, Adriaensen D, Levebvre R: Postnatal development of nitrenergic neurons in the myenteric plexus of rat stomach 429
- Timmermans J-P → Kaleczyc J
- Toranelli M → Maly IP
- Trick D, Decker J, Groene H-J, Schulze M, Wiegandt H: Regional expression of sulfatides in rat kidney: immunohistochemical staining by use of monospecific polyclonal antibodies 143
- Triffitt JT → Oreffo ROC
- Tyszkowski R → Breton S
- Uchida T → Wakida K
- Udaka N → Ito T
- Väänänen HK → Sundquist KT
- Van Noorden CJF → Boon L
- Vidal S, Stefaneanu L, Kovacs K, Yamada S, Bartke A: Pituitary estrogen receptor α and dopamine subtype 2 receptor gene expression in transgenic mice with overproduction of heterologous growth hormones 235
- Virdi AS → Oreffo ROC
- Virtanen I → Fröjdman K
- Vollmer E → Wiedorn KH
- Wakida K, Amizuka N, Murakami C, Satoda T, Fukae M, Simmer JP, Ozawa H, Uchida T: Maturation ameloblasts of the porcine tooth germ do not express amelogenin 297
- Westermann M, Leutbecher H, Meyer HW: Membrane structure of caveolae and isolated caveolin-rich vesicles 71
- Wichers S → Davidoff MS
- Wiedorn KH, Kühl H, Galle J, Caselitz J, Vollmer E: Comparison of in situ hybridization, direct and indirect in situ PCR as well as tyramide signal amplification for the detection of HPV 89
- Wiegandt H → Trick D
- Wimmer M, Tag C, Hofer HW: A non-receptor-type protein phosphotyrosine phosphatase is enriched in secretory vesicles of glucagon- and pancreatic polypeptide-secreting cells of the endocrine pancreas 135
- Witt M → Schulze E
- Xian CJ: Expression of transforming growth factor- α mRNA and peptide in rodent kidneys 467
- Yamada S → Vidal S
- Yamamoto K → Aoyagi M
- Yamamoto K → Maeda H
- Yamamoto M → Aoyagi M
- Yamamoto S → Aoyagi M
- Yamamoto T → Yaoita E
- Yaoita E, Franke WW, Yamamoto T, Kawasaki K, Kihara I: Identification of renal podocytes in multiple species: higher vertebrates are vimentin positive/lower vertebrates are desmin positive 107
- Yoshida T → Yoshimura E
- Yoshimine Y → Maeda H
- Yoshimura E, Majima A, Sakakura Y, Sakakura T, Yoshida T: Expression of tenascin-C and the integrin $\alpha 9$ subunit in regeneration of rat nasal mucosa after chemical injury: involvement in migration and proliferation of epithelial cells 259
- Zamboni-Zallone A → Oreffo ROC
- Zhu Y, Lu D, DiMario P: Nucleolin, defective for MPF phosphorylation, localizes normally during mitosis and nucleologenesis 477
- Zijlstra A, Schelling ME: Detection of multiple fibronectin isoforms in fetal fibroblast monolayer culture: a novel method for the qualitative and quantitative detection of multiple antigens 163

Announcements 87, 171, 243, 335, 417, 491
Erratum 489

Indexed in *Current Contents*
and *Index Medicus*